Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 1/31/2022 (ENSO Condition: La Niña)

Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using 4 methods: Croley's method[1], the SFWMD empirical method[2], a sub-sampling of La Nina years[3] and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Nina ENSO years[4]. The results for Croley's method and the SFWMD empirical method are based on the CPC Outlook.

Table of the Lake Okeechobee Net Inflow Outlooks in feet of equivalent depth. All methods are updated on a weekly basis with observed net inflow for the current month.

Season	Croley's Method[1*]		SFWMD Empirical Method[2]		Sub-sampling of La Nina ENSO Years[3]		Sub-sampling of AMO Warm + La Nina ENSO Years[4]	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Jan-Jun)	N/A	N/A	0.54	Dry	0.13	Dry	0.31	Dry
Multi Seasonal (Jan-Oct)	N/A	N/A	2.62	Wet	2.03	Normal	1.93	Normal

*Croley's Method Not Produced for This Report

See Seasonal and Multi-Seasonal tables for the classification of Lake Okeechobee Outlooks.

The recommended methods and values for estimating the Lake Okeechobee Net Inflow Outlook are shaded and should be used in the LORS2008 Release Guidance Flow Charts.

**Sub-sampling is a weighted average of ENSO conditions based on the ENSO forecast used.

Tributary Hydrologic Conditions Graph:

-147 cfs 14-day running average for Lake Okeechobee Net Inflow through 2/07/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-2.35 for Palmer Drought Index on 2/07/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

The wetter of the two conditions above is **Dry.**

LORS2008 Classification Tables:

Lake Okeechobee Stage on 2/07/2022:

Lake Okeechobee Stage: **14.79 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.73	
	Intermediate sub-band	15.95	
	Low sub-band	13.60	← 14.79 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.97	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades impact; otherwise no releases to WCAs.

Part D of LORS2008: Discharge to Tide

Up to 450 cfs at S-79 and up to 200 cfs at S-80.

LORS2008 Implementation on 02/07/2022 (ENSO Condition- La Nina Watch):

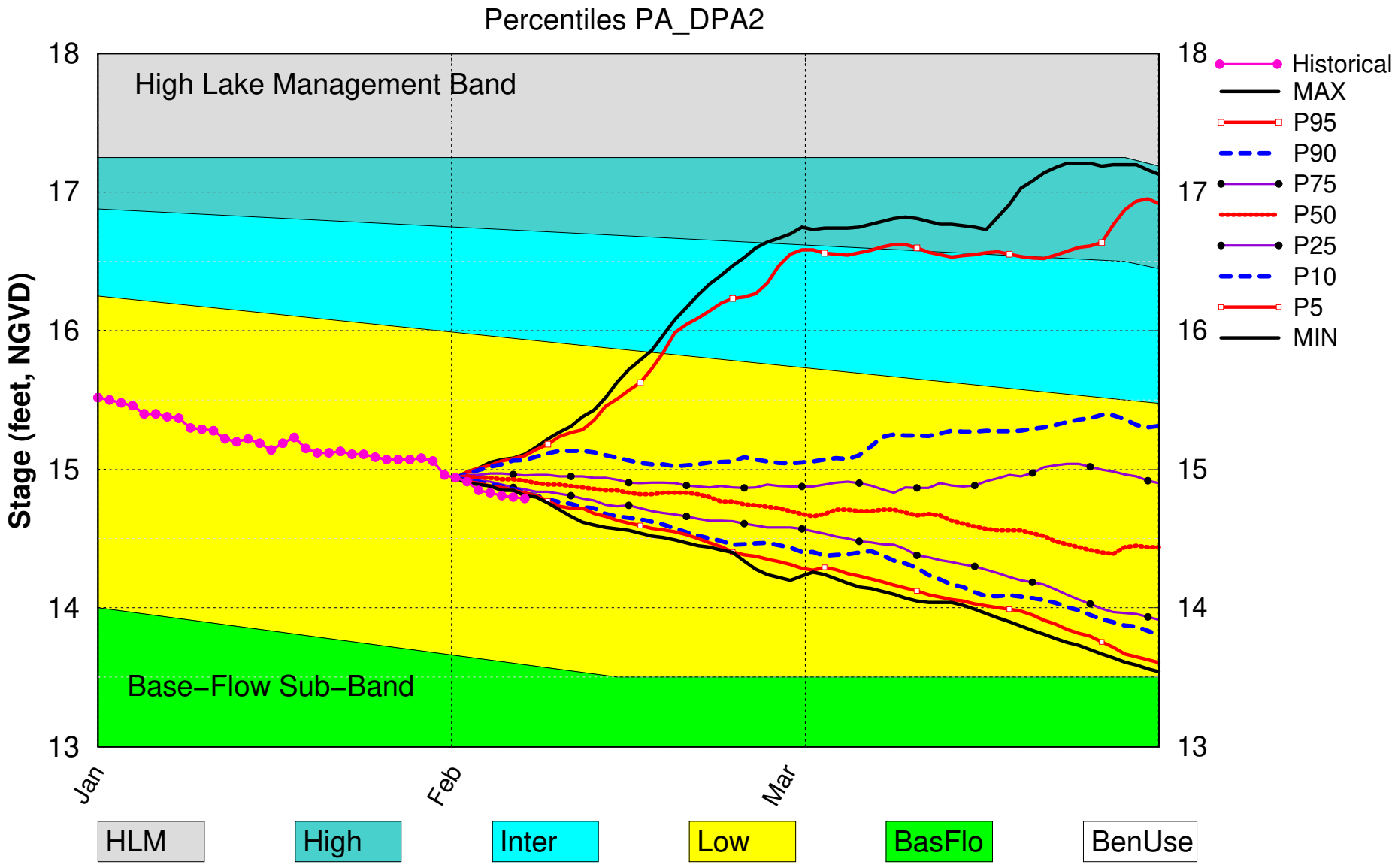
Status for week ending 02/07/2022:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	-2.35 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	0.13 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.03 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T and 1-9)	Above Line 1 (17.09 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.12 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.51 ft)	L
LEC	Service Area 1	Year-Round Irrigation Rule in effect	L
	Service Area 2	Year-Round Irrigation Rule in effect	L
	Service Area 3	Year-Round Irrigation Rule in effect	L

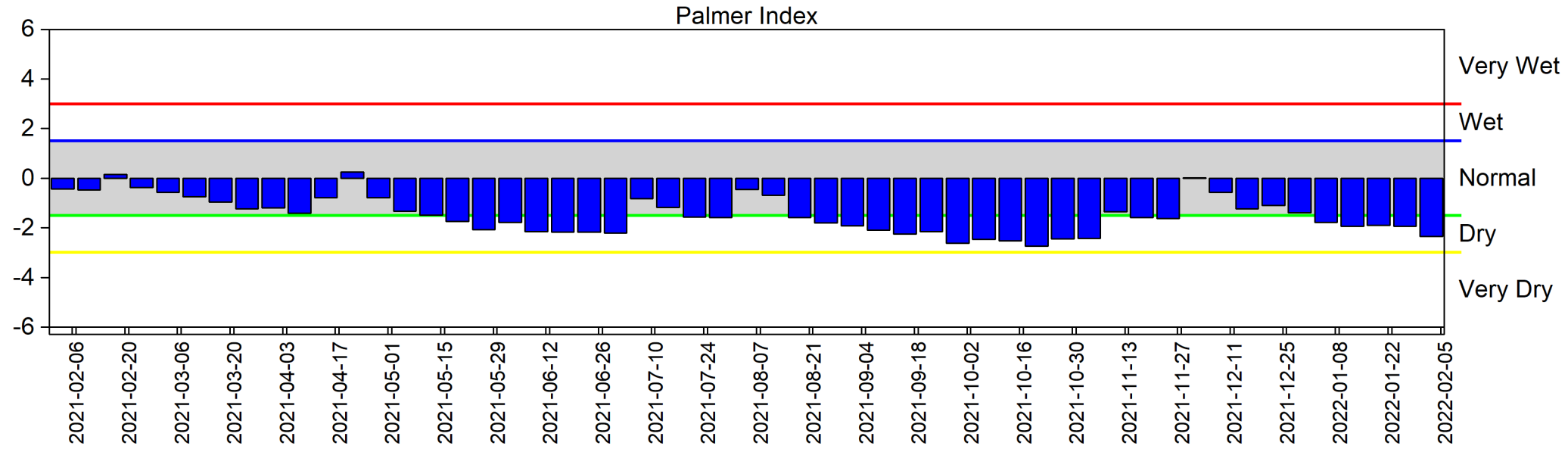
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

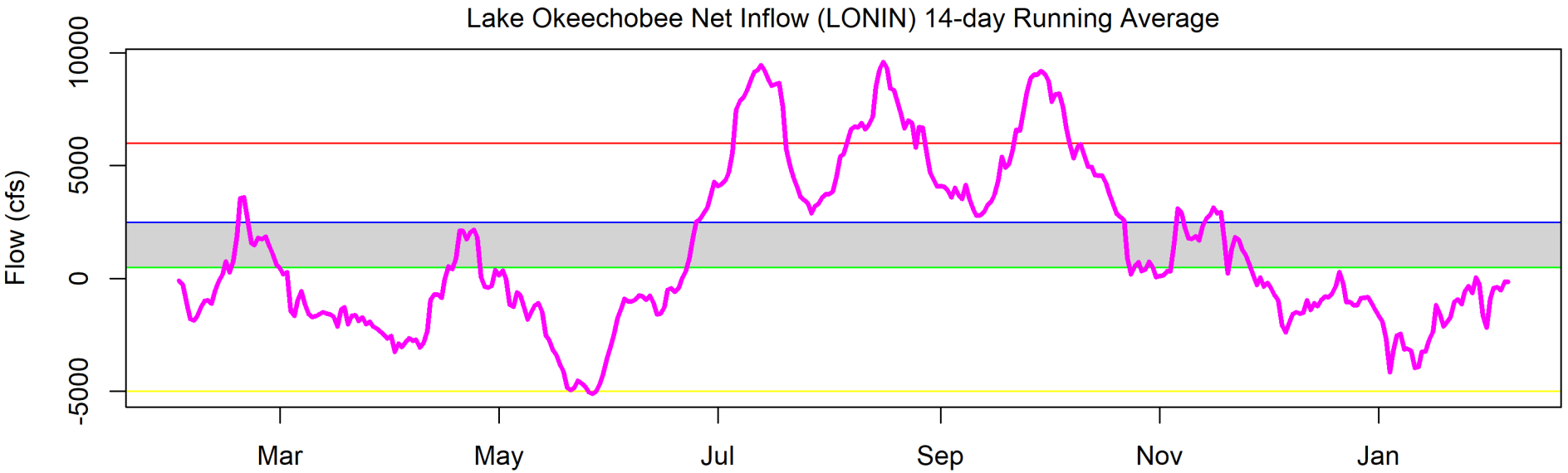
Lake Okeechobee SFWMM Feb 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

Mon Feb 7 01:04:41 2022


Palmer Index
6
4
2
0
-2
-4
-6
Very Wet
Wet
Normal
Dry
Very Dry
2021-02-06
2021-02-20
2021-03-06
2021-03-20
2021-04-03
2021-04-17
2021-05-01
2021-05-15
2021-05-29
2021-06-12
2021-06-26
2021-07-10
2021-07-24
2021-08-07
2021-08-21
2021-09-04
2021-09-18
2021-10-02
2021-10-16
2021-10-30
2021-11-13
2021-11-27
2021-12-11
2021-12-25
2022-01-08
2022-01-22
2022-02-05


Lake Okeechobee Net Inflow (LONIN) 14-day Running Average
Flow (cfs)
10000
5000
0
-5000
Mar
May
Jul
Sep
Nov
Jan

2008 LORS

Part C: Establish Allowable Lake Okeechobee Releases to the Water Conservation Areas

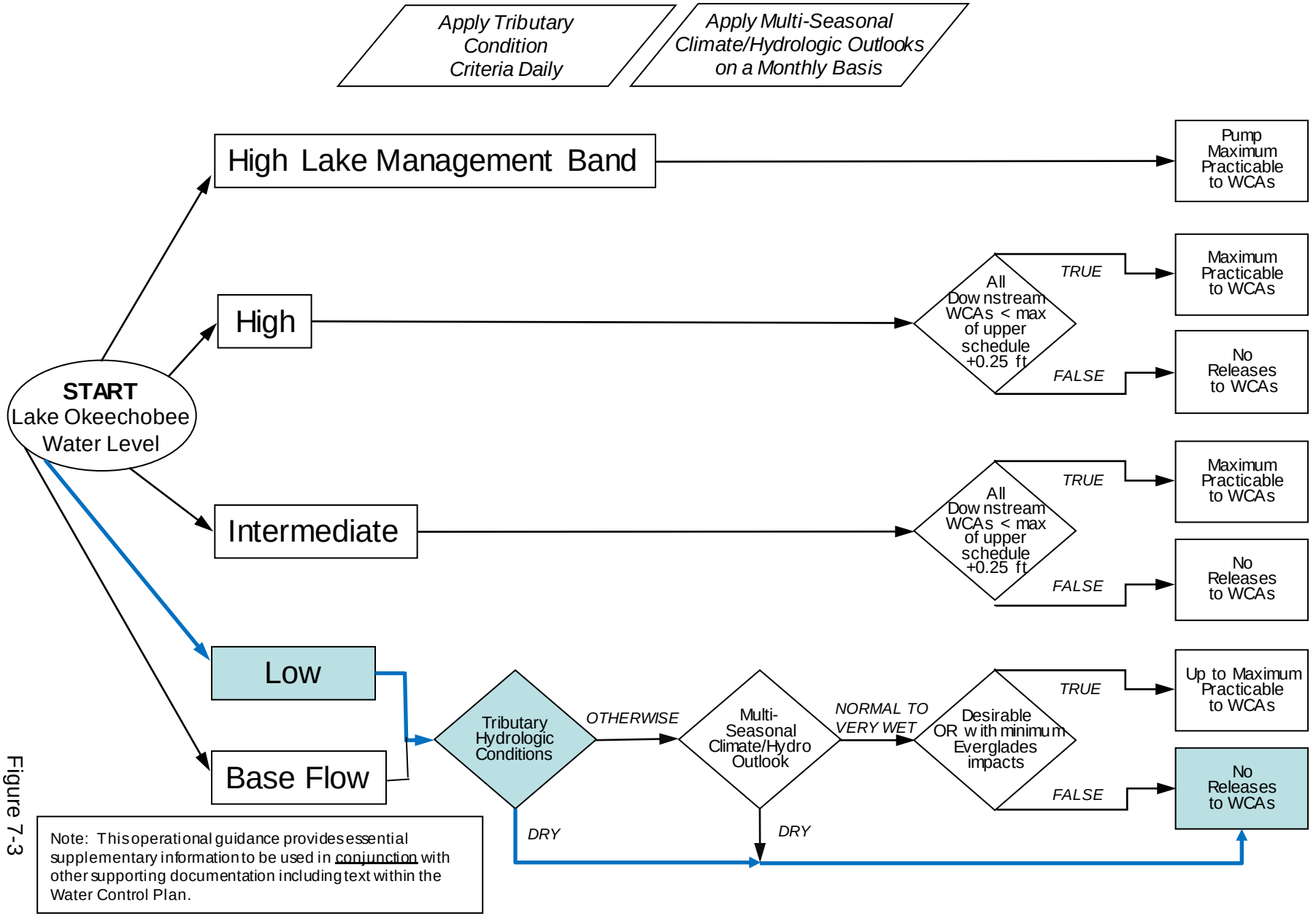
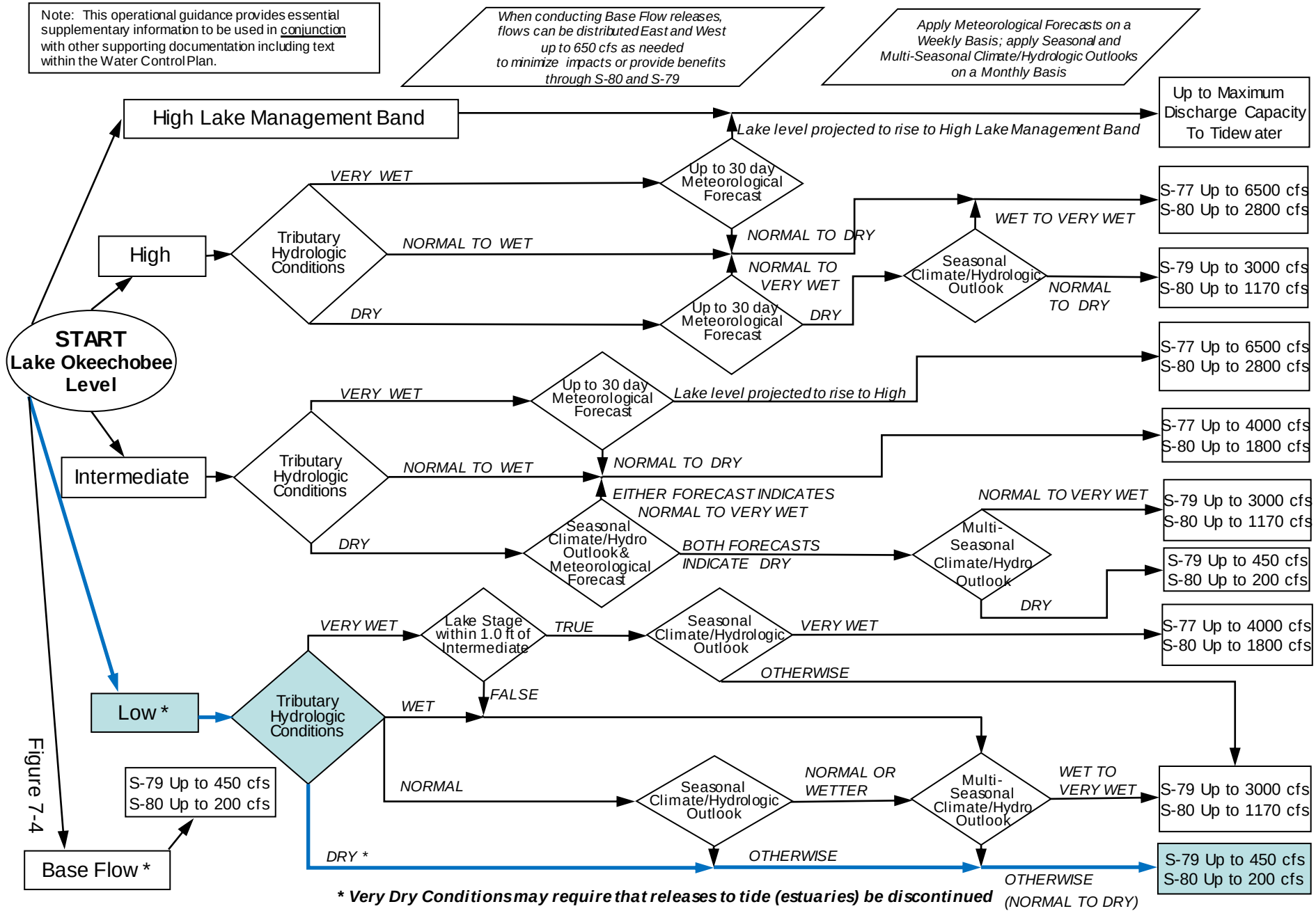


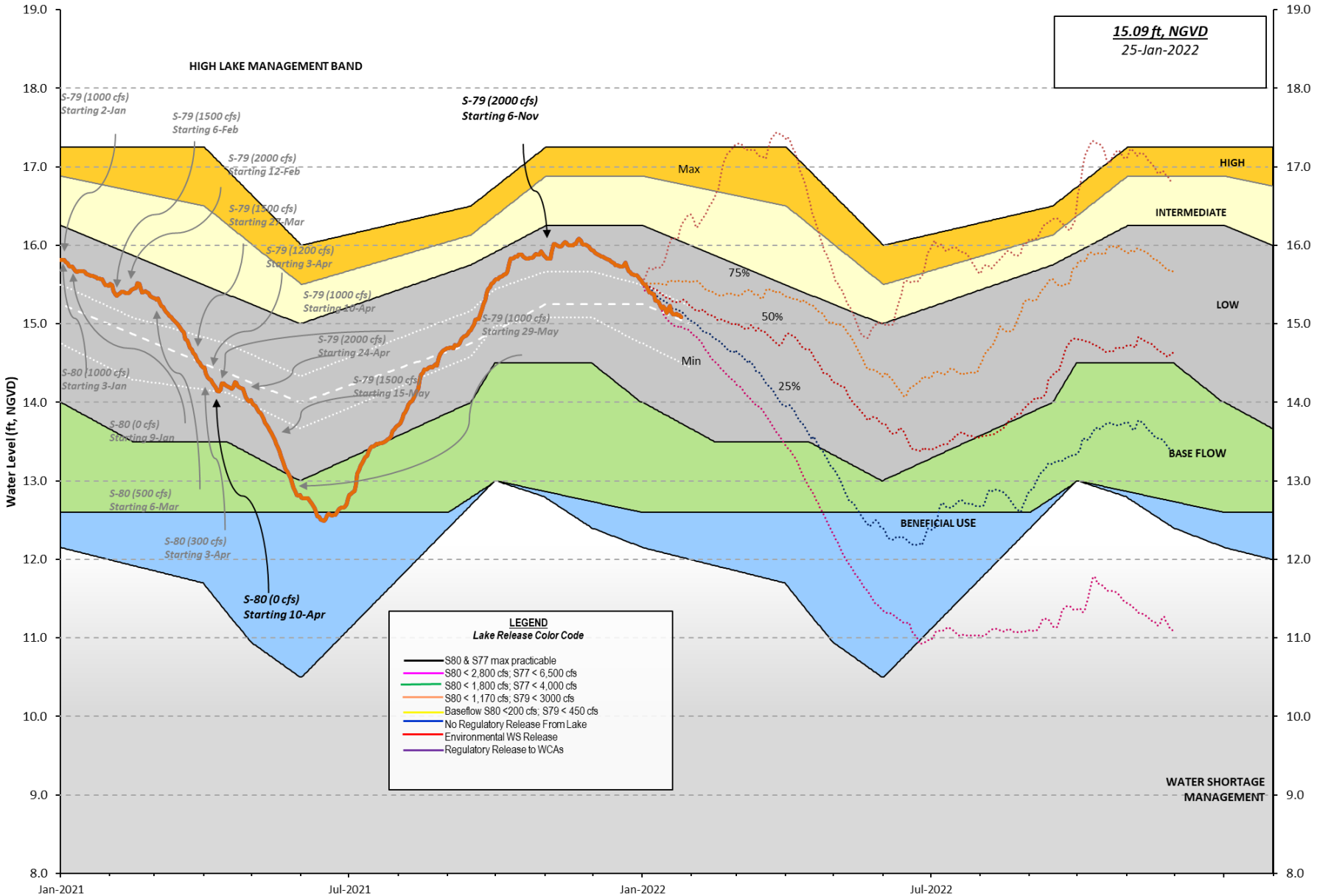
Figure 7-3

2008 LORS

Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)



Lake Okeechobee Water Level History and Projected Stages



LORS-2008
Adopted by USACE 28-April-2008

Projected Stage Percentiles From SFWMD-HESM Position Analysis

U. S. Army Corps of Engineers, Jacksonville District
Lake Okeechobee and Vicinity Report
** Preliminary Data - Subject to Revision **

Data Ending 2400 hours 06 FEB 2022

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	-NR-	15.37	12.92 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.97
Currently in Water Shortage Management Band

Simulated Average LORS2008 [1965-2000] 13.47
Difference from Average LORS2008 -NR-

06FEB (1965-2007) Period of Record Average 14.62
Difference from POR Average -NR-

Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ -NR-'

++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ -NR-'

Bridge Clearance = 49.32'

---

4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values):

L001	L005	L006	LZ40	S4	S352	S308	S133
-NR-	-NR-	-NR-	-NR-	-NR-	15.02	14.90	14.78

*Combination Okeechobee Avg-Daily Lake Average = -NR- (*See Note)

Okeechobee Inflows (cfs):

S65E	1071	S65EX1	0	Fisheating Cr	16
S154	0	S191	0	S135 Pumps	0
S84	0	S133 Pumps	0	S2 Pumps	0
S84X	0	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	0

Total Inflows: 1087

Okeechobee Outflows (cfs):

S135 Culverts	-NR-	S354	23	S77	1848
S127 Culverts	0	S351	35	S308	0
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-NR-		

Total Outflows: 1907

****S77 structure flow is being used to compute Total Outflow.
****S308 structure flow is being used to compute Total Outflow.

Okeechobee Pan Evaporation (inches):
S77 0.16 S308 0.04
Average Pan Evap x 0.75 Pan Coefficient = 0.07" = 0.01'

Lake Average Precipitation using NEXRAD: = -NR-" = -NR-'

Evaporation - Precipitation: = -NR-" = -NR-'
Evaporation - Precipitation using Lake Area of 730 square miles
is equal to -NR-
Lake Okeechobee (Change in Storage) Flow is -NR- cfs or -NR- AC-FT

	Headwater Elevation (ft-msl)	Tailwater Elevation (ft-msl)	Disch (cfs)	Gate Positions #1 (ft)	#2 (ft)	#3 (ft)	#4 (ft)	#5 (ft)	#6 (ft)	#7 (ft)	#8 (ft)
			(I) see note at bottom								
North East Shore											
S133 Pumps:	13.47	14.79	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.80	14.79	0	0.0	0.0	0.0					
S135 Pumps:	13.48	14.80	0	0	0	0	0		(cfs)		
S135 Culverts:			-NR-	-NR-	-NR-						
North West Shore											
S65E:	21.03	14.61	1071	0.4	0.9	0.2	0.5	0.2	0.8		
S65EX1:	21.03	14.61	0								
S127 Pumps:	13.49	14.79	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.00	14.85	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.92	14.79	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		28.74	16								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.58	-NR-	0	0	0	0			(cfs)		
S169:	14.87	14.91	-NR-	-NR-	-NR-	-NR-					
S310:	14.80		21								

```
  S3 Pumps:    10.68     14.86       0      0    0    0            (cfs)
  S354:        14.86     10.68      23    0.0  0.0
  S2 Pumps:    10.47      -NR-       0      0    0    0    0       (cfs)
  S351:         -NR-     10.47      35    0.0  0.0  0.0
  S352:        15.01     10.62       0    0.0  0.0
  C10A:         -NR-     14.82            8.0   8.0   8.0   0.0   0.0
  L8 Canal PT            14.85    -NR-
```

S351 and S352 Temporary Pumps/S354 Spillway

```
  S351:        10.47      -NR-      35  -NR--NR--NR--NR--NR--NR-
  S352:        10.62     15.01       0  -NR--NR--NR--NR-
  S354:        10.68     14.86      23  -NR--NR--NR--NR-
```

```
Caloosahatchee River (S77, S78, S79)
  S47B:        13.45     12.46            1.5  2.0
  S47D:        12.44     11.03       0    0.0
  S77:
    Spillway and Sector Preferred Flow:
               14.64     10.93    1844  0.5  3.0  3.0  0.5
    Flow Due to Lockages+:           4

  S78:
    Spillway and Sector Flow:
               10.90      3.01    1790    0.0  2.5  2.5  0.0
    Flow Due to Lockages+:           6

  S79:
    Spillway and Sector Flow:
                3.20      1.14    2055    0.0  0.0  2.0  2.0  1.5  1.0  0.0
0.0
    Flow Due to Lockages+:           8
    Percent of flow from S77        90%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
               14.90     14.18       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           0

  S153:        18.72     13.99       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
               14.23      1.03       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:        -NR-
    Percent of flow from S308   NA  %

  Steele Point Top Salinity    (mg/ml) ****
  Steele Point Bottom Salinity (mg/ml) ****

  Speedy Point Top Salinity    (mg/ml) ****
  Speedy Point Bottom Salinity (mg/ml) ****
```

+ Flow Due to lockages is computed utilizing average daily headwater and tailwater along with total number of lockages for the day to calculate a volume which is then converted to an average discharge in cfs.
++ Preferred flow is determined from either the spillway discharge or the below flow meter daily

---

Daily Precipitation Totals	1-Day (inches)	3-Day (inches)	7-Day (inches)	Wind Direction (Degø)	Wind Speed (mph)
S133 Pump Station:	-NR-	0.00	0.00		
S193:	-NR-	0.00	0.00	-NR-	-NR-
Okeechobee Field Station:	-NR-	0.00	0.00		
S135 Pump Station:	-NR-	0.00	0.00		
S127 Pump Station:	-NR-	0.00	0.00		
S129 Pump Station:	-NR-	0.00	0.00		
S131 Pump Station:	-NR-	0.00	0.00		
S77:	0.00	0.01	0.01	330	5
S78:	0.00	0.00	0.00	305	1
S79:	0.00	0.00	0.00	230	3
S4 Pump Station:	-NR-	0.00	0.00		
Clewiston Field Station:	-NR-	0.00	0.00		
S3 Pump Station:	-NR-	0.00	0.00		
S2 Pump Station:	-NR-	0.00	0.00		
S308:	0.01	0.01	0.01	86	1
S80:	0.00	0.20	0.20	298	2
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.00	0.00		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations			06 FEB 2022	-NR-	Difference from 06FEB22
06FEB22	-1 Day =		05 FEB 2022	-NR-	-NR-
06FEB22	-2 Days =		04 FEB 2022	-NR-	-NR-
06FEB22	-3 Days =		03 FEB 2022	-NR-	-NR-
06FEB22	-4 Days =		02 FEB 2022	14.90	-NR-
06FEB22	-5 Days =		01 FEB 2022	14.91	-NR-
06FEB22	-6 Days =		31 JAN 2022	14.94	-NR-
06FEB22	-7 Days =		30 JAN 2022	14.96	-NR-
06FEB22	-30 Days =		07 JAN 2022	15.37	-NR-
06FEB22	-1 Year =		06 FEB 2021	15.37	-NR-
06FEB22	-2 Year =		06 FEB 2020	12.92	-NR-

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = -NR-

---

Lake Okeechobee Net Inflow (LONIN)	
Average Flow over the previous 14 days	Avg-Daily Flow

06FEB22	Today =	06 FEB 2022	-1402	MON	-NR-
06FEB22	-1 Day =	05 FEB 2022	-1087	SUN	-NR-
06FEB22	-2 Days =	04 FEB 2022	-1260	SAT	-NR-
06FEB22	-3 Days =	03 FEB 2022	-899	FRI	-NR-
06FEB22	-4 Days =	02 FEB 2022	-723	THU	-81
06FEB22	-5 Days =	01 FEB 2022	-977	WED	-3905
06FEB22	-6 Days =	31 JAN 2022	-1742	TUE	-1025
06FEB22	-7 Days =	30 JAN 2022	-979	MON	-17149
06FEB22	-8 Days =	29 JAN 2022	1146	SUN	802
06FEB22	-9 Days =	28 JAN 2022	481	SAT	7149
06FEB22	-10 Days =	27 JAN 2022	-306	FRI	4262
06FEB22	-11 Days =	26 JAN 2022	-40	THU	1440
06FEB22	-12 Days =	25 JAN 2022	-168	WED	-2879
06FEB22	-13 Days =	24 JAN 2022	-625	TUE	-2631

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
06FEB22	Today=	06 FEB 2022	1045	MON	1208
06FEB22	-1 Day =	05 FEB 2022	992	SUN	1225
06FEB22	-2 Days =	04 FEB 2022	935	SAT	1254
06FEB22	-3 Days =	03 FEB 2022	873	FRI	1155
06FEB22	-4 Days =	02 FEB 2022	820	THU	1165
06FEB22	-5 Days =	01 FEB 2022	766	WED	1201
06FEB22	-6 Days =	31 JAN 2022	709	TUE	1136
06FEB22	-7 Days =	30 JAN 2022	661	MON	1115
06FEB22	-8 Days =	29 JAN 2022	613	SUN	1065
06FEB22	-9 Days =	28 JAN 2022	578	SAT	1045
06FEB22	-10 Days =	27 JAN 2022	524	FRI	959
06FEB22	-11 Days =	26 JAN 2022	478	THU	847
06FEB22	-12 Days =	25 JAN 2022	445	WED	715
06FEB22	-13 Days =	24 JAN 2022	423	TUE	545

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
06FEB22	Today=	06 FEB 2022	0	MON	0
06FEB22	-1 Day =	05 FEB 2022	0	SUN	0
06FEB22	-2 Days =	04 FEB 2022	0	SAT	0
06FEB22	-3 Days =	03 FEB 2022	0	FRI	0
06FEB22	-4 Days =	02 FEB 2022	0	THU	0
06FEB22	-5 Days =	01 FEB 2022	0	WED	0
06FEB22	-6 Days =	31 JAN 2022	0	TUE	0
06FEB22	-7 Days =	30 JAN 2022	0	MON	0
06FEB22	-8 Days =	29 JAN 2022	0	SUN	0
06FEB22	-9 Days =	28 JAN 2022	0	SAT	0
06FEB22	-10 Days =	27 JAN 2022	0	FRI	0
06FEB22	-11 Days =	26 JAN 2022	0	THU	0
06FEB22	-12 Days =	25 JAN 2022	0	WED	0
06FEB22	-13 Days =	24 JAN 2022	0	TUE	0

Lake Okeechobee Outlets Last 14 Days

DATE	S-77 Discharge (ALL DAY) (AC-FT)	Below S-77 Discharge (ALL-DAY) (AC-FT)	S-78 Discharge (ALL DAY) (AC-FT)	S-79 Discharge (ALL DAY) (AC-FT)
06 FEB 2022	3652	4078	3544	4056
05 FEB 2022	3227	-NR-	3090	4366
04 FEB 2022	2775	-NR-	2380	3254
03 FEB 2022	3556	2338	2275	2864
02 FEB 2022	3658	2193	1863	3429
01 FEB 2022	-NR-	2487	2407	4980
31 JAN 2022	-NR-	4767	3525	3824
30 JAN 2022	-NR-	4384	3796	4225
29 JAN 2022	-NR-	4300	3213	4786
28 JAN 2022	-NR-	4618	3635	4107
27 JAN 2022	-NR-	3084	3184	4183
26 JAN 2022	-NR-	2526	2617	4048
25 JAN 2022	-NR-	2993	3032	4049
24 JAN 2022	-NR-	2944	3068	4075

DATE	S-310 Discharge (ALL DAY) (AC-FT)	S-351 Discharge (ALL DAY) (AC-FT)	S-352 Discharge (ALL DAY) (AC-FT)	S-354 Discharge (ALL DAY) (AC-FT)	L8 Canal Pt Discharge (ALL DAY) (AC-FT)
06 FEB 2022	42	69	0	46	-NR-
05 FEB 2022	-NR-	573	0	201	-NR-
04 FEB 2022	-NR-	481	22	386	-NR-
03 FEB 2022	43	91	0	38	-NR-
02 FEB 2022	13	86	0	0	-NR-
01 FEB 2022	45	0	0	0	-NR-
31 JAN 2022	91	885	96	175	-NR-
30 JAN 2022	213	1848	261	1117	-NR-
29 JAN 2022	200	2466	705	1618	-NR-
28 JAN 2022	333	2600	803	1277	-NR-
27 JAN 2022	******	2042	707	1675	-NR-
26 JAN 2022	8	0	0	0	-NR-
25 JAN 2022	34	0	0	0	-NR-
24 JAN 2022	99	363	172	40	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
06 FEB 2022	1	-NR-	-NR-
05 FEB 2022	0	-NR-	0
04 FEB 2022	1	-NR-	0
03 FEB 2022	0	-25	0
02 FEB 2022	0	-NR-	0
01 FEB 2022	359	-NR-	0
31 JAN 2022	-NR-	125	0
30 JAN 2022	1	-NR-	0
29 JAN 2022	0	-NR-	0
28 JAN 2022	0	-NR-	0
27 JAN 2022	432	-NR-	0
26 JAN 2022	1	-NR-	0
25 JAN 2022	1	-NR-	0
24 JAN 2022	0	-NR-	358

*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and
Lockages Discharges from 0015 hrs to 2400 hrs.

(I) - Flows preceeded by "I" signify an instantaneous
flow computed from the single value reported for the day

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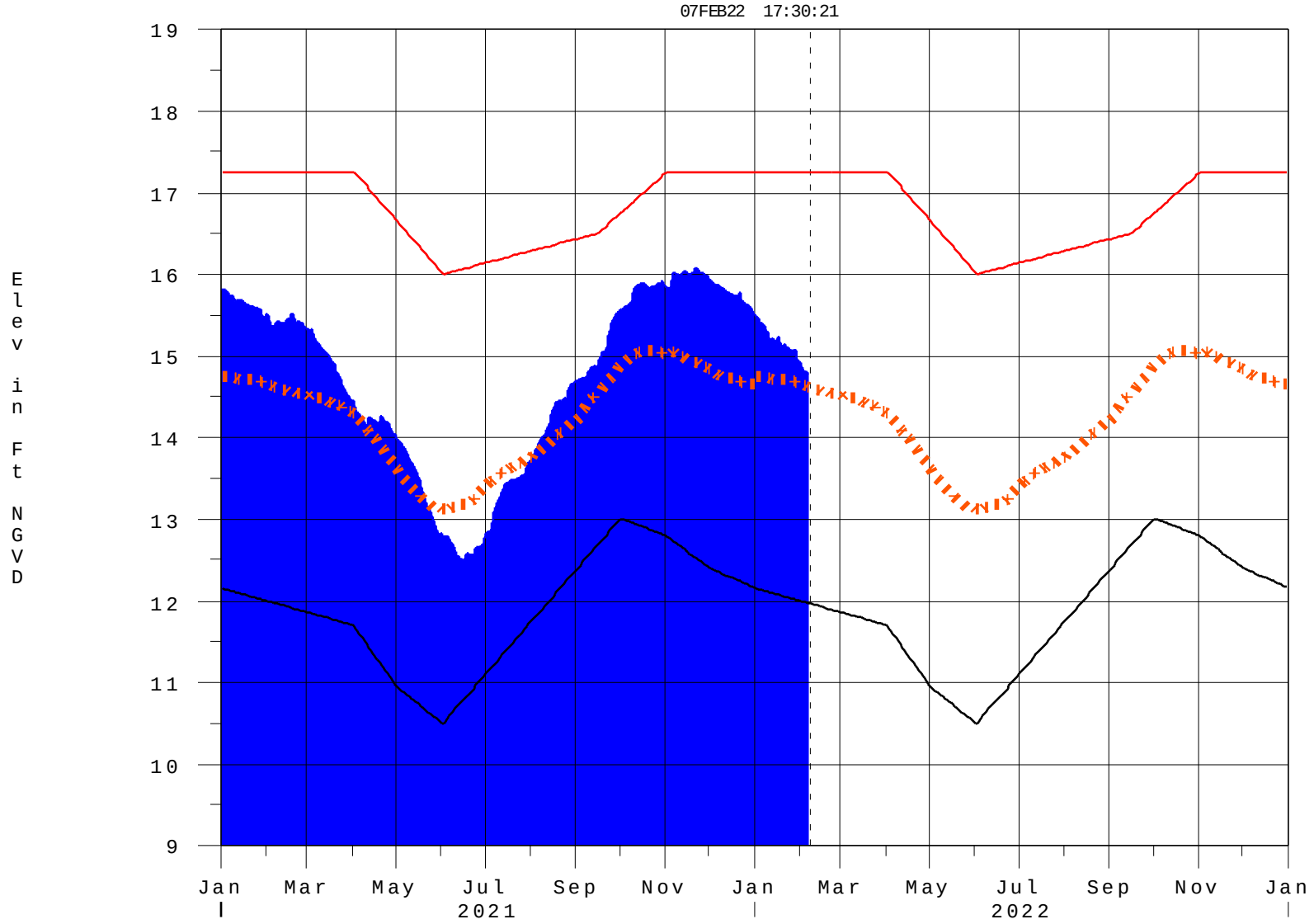
* On 11 May 1999, Lake Okeechobee Elevation was switched from
Instantaneous 2400 value to an average-daily lake average.
On 14 Mar 2001, due to the isolation of various gages within the standard
10 stations, the average of the interior 4 station gages was used
as the Lake Okeechobee Elevation.
On 05 November 2010, Lake Okeechobee Elevation was switched to a 9 gage
mix of interior and edge gages to obtain a more reliable representation
of the lake level.
On 09 May 2011, Lake Okeechobee Elevation was switched to a 8 gage
mix of interior and edge gages to obtain a more reliable representation
of the lake level due to isolation of S135 from low lake levels.
Today Lake Okechobee elevation is determined from the 4 Int & 4 Edge stations
++ For more information see the Jacksonville District Navigation website
at http://www.saj.usace.army.mil/
$ For information regarding Lake Okeechobee Service Area water restrictions
please refer to www.sfwmd.gov

Report Generated 07FEB2022 @ 08:45 ** Preliminary Data - Subject to Revision **

Lake Okeechobee



Classification Tables

Supplemental Tables used in conjunction with the LORS2008 Release

Guidance Flow Charts

- Class Limits for Tributary Hydrologic Conditions

Table K-2 in the Lake Okeechobee Water Control Plan

- 6-15 Day Precipitation Outlook Categories

Table ?? in the Lake Okeechobee Water Control Plan

- Classification of Lake Okeechobee Net Inflow for Seasonal Outlook

Table K-3 in the Lake Okeechobee Water Control Plan

- Classification of Lake Okeechobee Net Inflow for Multi-Seasonal Outlook

Table K-4 in the Lake Okeechobee Water Control Plan

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Tributary Hydrologic Classification*	Palmer Index Class Limits	2-wk Mean L.O. Net Inflow Class Limits
Very Wet	3.0 or greater	Greater >= 6000 cfs
Wet	1.5 to 2.99	2500 - 5999 cfs
Near Normal	-1.49 to 1.49	500 - 2499 cfs
Dry	-2.99 to -1.5	-5000 – 500 cfs
Very Dry	-3.0 or less	Less than -5000 cfs

* use the wettest of the two indicators

Classification of Lake Okeechobee Net Inflow Seasonal Outlook*

Lake Net Inflow Prediction [million acre-feet]	Equivalent Depth** [feet]	Lake Okeechobee Net Inflow Seasonal Outlook
> 0.93	> 2.0	Very Wet
0.71 to 0.93	1.51 to 2.0	Wet
0.35 to 0.70	0.75 to 1.5	Normal
< 0.35	< 0.75	Dry

****Volume-depth conversion based on average lake surface area of 467,000 acres**

Classification of Lake Okeechobee Net Inflow Multi-Seasonal Outlook*

Lake Net Inflow Prediction [million acre-feet]	**Equivalent Depth** [feet]**	**Lake Okeechobee Net Inflow Multi-Seasonal Outlook**
> 2.0	> 4.3	Very Wet
1.18 to 2.0	2.51 to 4.3	Wet
0.5 to 1.17	1.1 to 2.5	Normal
< 0.5	< 1.1	Dry

****Volume-depth conversion based on average lake surface area of 467,000 acres**

6-15 Day Precipitation Outlook Categories*

6-15 Day Precipitation Outlook Categories	WSE Decision Tree Categories
Above Normal	Wet to Very Wet
Normal	Normal
Below Normal	Dry

*** Corresponds to Table 7-6 in the Lake Okeechobee Water Control Plan**

Under Construction